Datasheet:

EN AW 7075
Bars and Rods - Aluminium

Alumeco ApS
15-12-2025

Internal alloy name:	**7075**
Chemical symbol:	**AW – Al Zn5,5MgCu**
International alloy name:	**AW 7075**
UNS:	**A97075**
DIN-Werkstoff no.:	**3.4365**
Alloy type:	**Heat treatable alloy**

Main usage:

- Machining/machinery
- Forgings
- Tools
- Heavy duty structures
- Hydraulics systems

Main properties:

- Very good workability
- Good machinability
- High strength

Important norms and literature:

General Standards:
EN 573-3:2013: Aluminium and aluminium alloys – Chemical composistion and form of wrought products – Part 3: Chemical composition and form of products.

Product standards:
EN 755-2:2016: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 2: Mechanical properties.

Geometric Tolerance:
EN 755-5: Aluminium and aluminium alloys – Extruded rod/bar, tube and profiles – Part 5: Rectangular bars, tolerances on dimensions and form

Chemical composition in %: EN 573-3:2013

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Remarks	Other elements	
										Each	Together
0,40	0,50	1,2 – 2,0	0,30	2,1 – 2,9	0,18 – 0,28	5,1 – 6,1	0,20	Rest	Max. 0,25 Zr + Ti	0,05	0,15

Mechanical properties: EN 755-2:2016 (Extruded)

Temper	Dimensions mm		Tensile Stress R_m MPa	Proof Stress $R_{p0,2}$ MPa	Elongation Min %		Hardness* HBW
	Diameter (Rod)	Width across flats (Bar)			A	A_{50mm}	
O, H111	≤ 200	≤ 200	Max. 275	Max. 165	10	8	60
T6, T6510, T6511	≤ 25	≤ 25	Min. 540	Min. 480	7	5	150
	25 < D ≤ 100	25 < S ≤ 100	Min. 560	Min. 500	7	-	
	100 < D ≤ 150	100 < S ≤ 150	Min. 550	Min. 440	5	-	
	150 < D ≤ 200	150 < S ≤ 200	Min. 440	Min. 400	5	-	
T73, T73510, T73511	≤ 25	≤ 25	Min. 485	Min. 420	7	5	135
	25 < D ≤ 75	25 < S ≤ 75	Min. 475	Min. 405	7	-	
	75 < D ≤ 100	75 < S ≤ 100	Min. 470	Min. 390	6	-	
	100 < D ≤ 150	100 < S ≤ 150	Min. 440	Min. 360	6	-	

*** Information values only;**

Physical properties:

Density g/cm³	Solidification range °C	Electrical conductivity %IACS	Thermal conductivity W/m K	Thermal expansion (µm m^{-1} K^{-1})	Annealing temperature °C	E - modulus (N / mm²)
2,81	475 - 635	38 - 52	130-160	23,5	-	72.000

Properties and information's (3 high/good; 2 Middle; 1 Poor/bad)

Resistance:
Corrosion index, general: 1
Marine Atm. Corr index: 1

Hot workability:
Extrusion: 2
Forging: 2

Cold formability:
Cold formability general: 1
Deep drawing: 1
Bending: 2

Weldability:
TIG welding: 1
MIG welding: 1

Solderability: 1

Machinability:
Machinability index: 3

Anodizing:
Decorative anodizing surface treatment: 1
Protective anodizing index: 2
Hard anodizing: 2
Color anodizing: 1

Tolerances for Rectangular Bars of AW 7075

Dimensions: EN 755-5:2008*
Width and thickness tolerances for alloy group II

Width *W*		Thickness *t* tolerances for thickness ranges								
	Tolerances	2 ≤ *t* ≤ 6	6 < *t* ≤ 10	10 < *t* ≤ 18	18 < *t* ≤ 30	30 < *t* ≤ 50	50 < *t* ≤ 80	80 < *t* ≤ 120	120 < *t* ≤ 180	180 < *t* ≤ 240
10 ≤ *W* ≤ 18	± 0,35	± 0,25	± 0,30	± 0,35	-	-	-	-	-	-
18 < *W* ≤ 30	± 0,40	± 0,25	± 0,30	± 0,40	± 0,40	-	-	-	-	-
30 < *W* ≤ 50	± 0,50	± 0,30	± 0,30	± 0,40	± 0,50	± 0,50	-	-	-	-
50 < *W* ≤ 80	± 0,70	± 0,30	± 0,35	± 0,45	± 0,60	± 0,70	± 0,70	-	-	-
80 < *W* ≤ 120	± 1,0	± 0,35	± 0,40	± 0,50	± 0,60	± 0,70	± 0,80	± 1,0	-	-
120 < *W* ≤ 180	± 1,4	± 0,45	± 0,50	± 0,55	± 0,70	± 0,80	± 1,0	± 1,1	± 1,4	-
180 < *W* ≤ 240	± 1,8	-	± 0,60	± 0,65	± 0,70	± 0,90	± 1,1	± 1,3	± 1,6	± 1,8
240 < *W* ≤ 350	± 2,2	-	± 0,70	± 0,75	± 0,80	± 0,90	± 1,2	± 1,4	± 1,7	± 1,9
350 < *W* ≤ 450	± 2,8	-	-	± 0,90	± 1,0	± 1,1	± 1,4	± 1,8	± 2,1	± 2,3
450 < *W* ≤ 600	± 3,5	-	-	-	-	± 1,2	± 1,4	± 1,8	-	-

* Values are referred from Table 2 of EN 755-5:2008

Dimensions: EN 755-5:2008*
Maximum corner radii

Thickness *t*	Maximum corner radii (Alloy group II)
2 ≤ *t* ≤ 10	1,0
10 < *t* ≤ 30	1,5
30 < *t* ≤ 80	2,5
80 < *t* ≤ 120	3,0
120 < *t* ≤ 180	4,0
180 < *t* ≤ 240	5,0

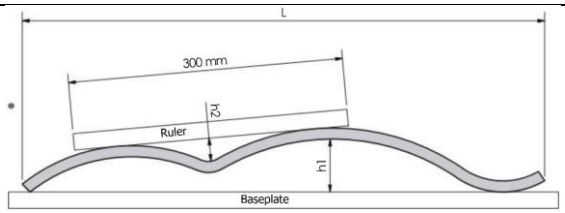
* Values are referred from Table 4 of EN 755-5:2008

Dimensions: EN 755-5:2008*
Fixed length tolerances

Width *W* (mm)	Tolerances on length		
	L ≤ 2000	2000 < *L* ≤ 5000	*L* > 5000
w ≤ 100	+5 0	+7 0	+10 0
100 < *w* ≤ 200	+7 0	+9 0	+12 0
200 < *w* ≤ 450	+8 0	+11 0	+14 0
450 < *w* ≤ 600	+9 0	+12 0	+16 0

* Values are referred from Table 5 of EN 755-5:2008

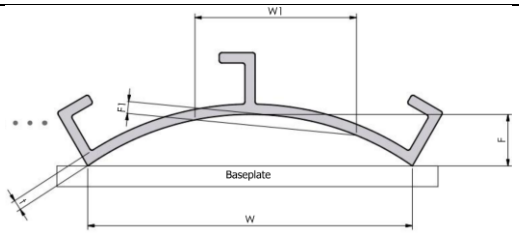
Dimensions: EN 755-5:2008*
Straightness tolerances



Width *W* (mm)	Thickness *t*	Maximum deviation from straightness per metre length h_1 / L (mm/m)	Maximum localized kink in any 300 mm portion h_2
10 ≤ *W* ≤ 80	10 ≤ *t* ≤ 80	2	1
80 < *W* ≤ 120	10 ≤ *t* ≤ 50	2	1
	50 < *t* ≤ 120	3	1,5
120 < *W* ≤ 180	10 ≤ *t* ≤ 50	3	1,5
	50 < *t* ≤ 180	4	2
180 < *W* ≤ 350	10 ≤ *t* ≤ 50	4	2
	50 < *t* ≤ 240	6	4
350 < *W* ≤ 450	10 ≤ *t* ≤ 240	6	4
450 < *W* ≤ 600	30 < *t* ≤ 120	6	4

* Values are referred from Table 6 of EN 755-5:2008

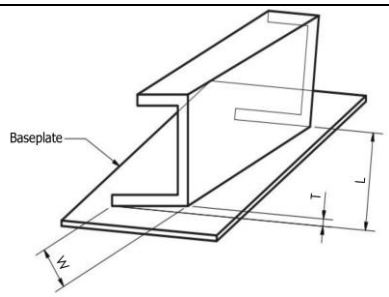
Dimensions: EN 755-5:2008*
Convexity-Concavity tolerances



Width *W*	Tolerances for convexity-concavity *F*
10 ≤ *t* ≤ 30	0,2
30 < *t* ≤ 50	0,3
50 < *t* ≤ 80	0,4
80 < *t* ≤ 120	0,6
120 < *t* ≤ 180	0,9
180 < *t* ≤ 240	1,2
240 < *t* ≤ 350	1,5
350 < *t* ≤ 450	2,0
450 < *t* ≤ 600	2,5

* Values are referred from Table 7 of EN 755-5:2008

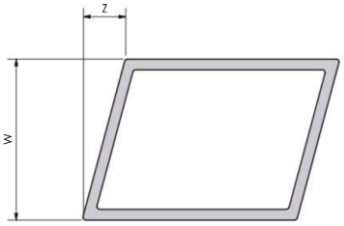
Dimensions: EN 755-5:2008*
Twist tolerances



Width *W*	Twist tolerances *T* (mm)	
	Per 1000 mm of length	Over the total length
10 ≤ *t* ≤ 30	1	3
30 < *t* ≤ 50	1,5	4
50 < *t* ≤ 120	2	5
120 < *t* ≤ 240	3	8
240 < *t* ≤ 350	4	10
350 < *t* ≤ 450	5	12
450 < *t* ≤ 600	6	14

* Values are referred from Table 8 of EN 755-5:2008

Dimensions: EN 755-5:2008*
Squareness tolerances



Thickness *t* (mm)	Maximum deviation from square *Z* (mm)
2 ≤ *t* ≤ 10	0,1
10 < *t* ≤ 100	0,01 * thickness
100 < *t* ≤ 180	1,0
180 < *t* ≤ 240	1,5

* Values are referred from Table 9 of EN 755-5:2008